

To the Chairman and Members of the
Bridgend Local Board.

Gentlemen, -

I beg to present my Annual Report together with a Statistical Return of Births & Deaths & Tabular Statement of new Cases of Infectious Sickness for the year ending 31st December 1893.

I must congratulate your Authority upon the advantages derived from your adoption of the "Infectious Disease Notification Act." This Act came into force most timely to afford me valuable information as to the incidence of an outbreak of Enteric Fever which took place in July, and thereby enabled me to investigate the surroundings of each case and so give a fairly accurate history of the epidemic. The infectious diseases prevalent during the year have been croup, small pox, scarlet fever, enteric fever, continued fever & diphtheria influenza.

During the March quarter a death from croup occurred in the town & one from small pox at the Workhouse. There was also another case of small pox in the Workhouse which recovered.

During the June quarter an isolated case of enteric fever took place that ended fatally.

In the course of the September quarter there were 2 deaths from enteric fever & two from infantile diarrhoea.

In July the "Infectious Disease Notification Act" very opportunely came into force, as I believe I was notified of the very first case of

a sharp outbreak of enteric fever & continued fever. There were also notified 2 cases of diphtheria and 4 of scarlet fever which latter luckily did not spread beyond the two houses infected. There were 20 cases of enteric fever, 10 of continued fever, but no doubt some of them may be put down to the former.

During the last quarter these two diseases were manifestly on the decline, 7 cases only of enteric fever being notified & 2 of continued, but influenza became decidedly prevalent & caused 2 deaths; two deaths were also due to enteric fever.

I must again remind you of the extreme need there is of the provision of means for the isolation of the first cases of infectious sickness as they arise to prevent their spread. Disinfection is most inadequately carried out due to the fact that you have no disinfecting apparatus & that no one on your sanitary staff has the time properly to perform this duty. Had your Authority such an apparatus the man who attended to it could also carry out the effective disinfection of houses as well as of clothing & bedding. Your Surveyor, has, however, in numerous cases carried out satisfactory disinfection according to my directions. I advise for houses the thorough washing of the walls, ceilings & floors with the mercurial solution recommended by the Local Government Board, the burning of sulphur in the sealed rooms, the removal & burning of wall paper, & thorough white-liming with subsequent thorough ventilation by means of open windows. For clothes &c. that they should be totally immersed in the L. G. B. solution immediately on their removal from the patient, then boiled for some hours

and eventually hung out to dry in the open air. For disinfections of privies & cesspools, lime chloride is advised, & carbolic acid for other purposes. In cases of so infectious & fatal a disease as puerperal fever, I advise burning the bed, bedclothes and bedding clothing in the absence of a proper disinfectant, & also in cases of enteric fever where the bed & bedclothes have become soiled by excretions.

26th January I had the advantage of making a general inspection of the town with the Medical Officer of the County Council. Oldcastle, South-street, S. Marie-st. & Ennany were visited. The day being wet the Medical Officer had a favorable opportunity of observing the inadequate manner in which surface drainage was dealt with in certain parts of the town. Since then much improvement has taken place in this respect, particularly in South-st. & S. Marie-st. where the proper laying out of the roads is at last completed. Many of the main drain ventilators were far too small in diameter, instances of which were given in my quarterly report. Many of these have now been supplied with 4-in. shafts as may be seen in the enclosed Surveyor's report. Many of the ventilators of houses recently built of those provided with any emit sewer air immediately above or below windows thus tending to pollute the air within the houses. I instance Brecknock villa, Bynnyfin & those occupied by Mr Edward & myself. Besides this some ventilators erected contain one or even two angles & some are right angled, tending to prevent free draught. The improvement at Phillips' court was manifest both in the construction of

4.

The houses & in the amount of free air-space surrounding them. The street road has not yet been properly laid. Chapel-st. was visited, and again most of these houses considered unfit for occupation. The absence of fresh air inlets in almost all the house drains, in all parts of the town was noticed. The stagnation that must exist in the main drain in Durranen place; Coity Brook & its ill-adaptability to serve as a main sewer were also adverted to.

At 26, 27, 28 North-st. the alterations effected did not fulfil the sanitary requirements we were promised. 19, 20, 21, North-st. the promised improvements were not carried out. The above 26, 27, 28, North-st. were subsequently closed by magistrates' order, but the improvements effected have not come up to what we desired. 19, 20, 21, North-st. the magistrates ordered certain work to be done, but the roof & walls are not yet rendered water tight.

The houses continuously reported on Newcastle-hill, the necessary alterations have not been carried out, & the defective drain beneath the floor not reconstructed. The four small, old, dilapidated houses, the Grotto, Newcastle, with insufficient air-space within & without are still unfit for occupation.

On Tuesday, 10th January, a tramp slept in the tramp ward of the Workhouse; on the 11th he was admitted to the house; on the 12th the rash of small pox appeared. I considered that the Receiving Ward was the only place for, even inadequately, isolating this dangerous case of

infectious disease; the doors were kept locked, sheets immersed in carbolic solution were hung over the door of communication & over the windows facing the yard of the house. Two male inmates consented to be isolated with the patient, to attend upon him; a woman was also obtained to act as nurse; she, with the Workhouse nurse, & one of the male attendants was also vaccinated; it did not take with the other male attendant, who was also vaccinated; but as he had had small pox I hoped he would prove immune to the infection. All these escaped the disease. A month after the patient's recovery the tramps ward was thoroughly washed with the L. & B. sublimate solution, sulphur was burnt in it, compressed sulphur dioxide used, & it was white-lined. The patient's clothes were all burnt, including his boots, & before being admitted into the Workhouse he had disinfestant baths for a week & received a fresh suit of clothes. These identical precautions were also adopted in the case of the imported nurse before she returned to her home, & of the two male attendants after they had disinfected thoroughly the Receiving Ward, before they re-entered the Workhouse. I wrote to the Medical Officer of Health a week informing him that we had a case of small pox who had lived at Heath a Wm Thomas' lodging-house and that his stay there would include the period of onset of the 'infection' so that in all probability there was or had been a case of hidden small pox in that town. I was glad to find that under the unprepared state of our town, the measures I had

adopted were approved by the Medical Officer of Health to the County Council.

I regret that notwithstanding these efforts at isolation another inmate of the Workhouse developed the disease on 31st Jan'y & died 2nd February. I therefore again brought to your notice what I had urged so repeatedly before, viz. the necessity for the provision of an Isolation Hospital for the locality with an Ambulance to serve it & a steam Disinfecting Chamber. My advice to the Board of Guardians to this effect was disregarded & my recommendation to your Authority has not yet been carried out so that we are quite helpless, if unfortunately we should be attacked by either small pox or cholera.

Mr. Dickson, the Poor Law Inspector visited the Workhouse soon after this and made certain suggestions as to dealing with small pox which I quote "I should suggest," he said, "that from now on & during prevalence of small pox no female vagrants be admitted to the Workhouse. Any male vagrant complaining of illness should be removed immediately into the female vagrant ward, pending examination by the Medical Officer. If the man be found to be suffering from small pox then the other vagrants should be discharged. No more admitted until further orders, but that they be relieved with lodging-house orders. The small pox patient to be treated in male vagrant ward, from which all vagrants' clothing &c. should be removed, a bed, &c. provided & what simple furniture is necessary."

I regret that I do not altogether agree with these suggestions.

1. - The Kump ward is utterly unadapted from a medical point of view, for the treatment of an acute case of fever, & has no bath attached to it as required by the L. G. B. orders

2. - "If the man be found to be suffering from small pox then the other vagrants should be discharged;" in which case all these vagrants should who had slept with the small-pox patient for a night probably would be infected with the disease, are discharged to spread the infection wherever they went. I would here suggest that they should all be disinfectant, reclothed, & vaccinated, if necessary, before being allowed to disperse.

3. - "No more vagrants admitted till further orders, but that they be relieved by lodging-house orders." Seeing that vagrants are the common carriers of the disease, this would mean that infection brought by one would be located in a densely populated & not too sanitary part of the town instead of at the comparatively isolated position at the Workhouse. Also that the Guardians would thus throw upon the town the responsibility of dealing with any vagrants infected with contagious illness.

Another suggestion was that of instead of erecting an Isolating Building for their own infectious cases, as I had advised them, they should apply to your Authority for accommodation in your Isolation Hospital. To this suggestion I have two objections - 1, that your Authority have no Isolation Hospital; & 2, that if you had it should be ~~immediately~~ managed & arranged that all classes would be willing or indeed glad to avail

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themselves of it for the protection of their own families & neighbours. And I think many would, not unreasonably object, to going into a ward in which tramps might be suddenly introduced. This objection could be overcome if the Rural Authority, the Board of Guardians & your Authority, perhaps with Bowbridge and Maesseg included, would combine to erect a sufficiently commodious & convenient building to satisfy the needs of these localities, with a separate pauper's-ward. I regret to disagree with Mr. Bircham in some respects in this matter but felt it would not be fair to your Authority if I did not express my views.

22nd March, I made a detailed inspection of the town with your Surveyor. I called his attention to the need of ventilating shafts in many positions or drains. Also we reported a number of houses unfit for occupation; in consequence of our report action was taken & a large proportion of them were closed, as you will find detailed in the Surveyor's report (annual) which I enclose.

The nuisance arising from the River due to excessive dryness from absence of natural flushing by rain was much complained of during this quarter & was more objectionable than I have ever before noticed it. This unhealthy condition of the river combined with the general stagnation & frequent choking of the drains, owing in some places to insufficient fall & in others to the absence of plentiful flushing renders our position if invaded by cholera most defenceless there being so many "dirt conditions" present to favor its propagation.

During the June quarter there was a death with typhoid symptoms but this case could not be

associated in any way with the several cases that followed in the ensuing month. I reported that there were several cases of enteric fever in the town which had been brought to my knowledge through the wise adoption of the "Infectious Disease Notification Act, which had now come into force.

I recommended the Authority that as I had said previously "Typhoid is a sign-post of cholera & wherever it is prevalent there also cholera may be looked for, & by the same means cholera also will make itself felt." And I urged the necessity of the Authority carrying out those precautions I advised the year before & reminded the Authority that the Medical Officer of the County Council in his report on this district said - "That your present precautionary measures are altogether inadequate. No hospital is provided neither is there a disinfecting apparatus. In its present condition your Town possesses no means whereby to combat such disease." I urged the Authority to take this warning into their mature consideration.

During the September quarter two deaths from enteric fever were registered. These deaths represented quite a sharp outbreak of enteric fever; 20 such cases had been notified. There had also been 8 cases of continued fever (4 of scarlet fever) & 2 of diphtheria. I said in my report "I think this plainly shows the influence of long continued drought upon ill-constructed & insufficiently flushed & ventilated drains in producing accumulation of sewer air & as a consequence its escape into or near inhabited dwellings. As I shall show

that with rare exceptions in all the houses where disease broke out upon investigation certain local sanitary defects were brought to light. All these cases may be fairly classified as preventable seeing that besides the evil of our ill-constructed main sewers these local sanitary defects might have been readily rectified either by owners or occupiers." After enumerating the various local sanitary defects discovered at all the houses inspected such as unventilated cesspools, closets & drains; the absence of fresh air inlets; choked drains, escape of sewer air; overflow from bath communicating directly with drain; rain stinks beneath or near windows connected directly with drain, &c. I observed that as the first five outbreaks were notified at the same time their causation was certainly separate, because the cases being simultaneous allowed no time for infection & incubation. Several sets of cases were notified in different parts of the town on the same day. I then continued "I would beg you to notice the following considerations:-

1. - The wide diffusion & simultaneity of these outbreaks of enteric fever with local sanitary defects discovered with hardly any exception.

2. - The special incidence of the disease upon localities situated in the vicinity of the highest points or terminals of certain main sewers with steep gradient.

3. - Most of the cases occurred at the extreme verge of the town & at a distance from the river.

4. - Primary outbreaks distant from the river

5. - The question of the milk supply was carefully considered but as almost all the cases had a different or varying supply that suspicion was not sustained.

6. - Water supply. Investigation and enquiry at its source revealed no evidence of pollution. The reservoirs were found perfectly clean & not subject to pollution. An enquiry as to leaky pipes was made & in the one or two instances of defect the condition was remedied.

7. - No connection between the cases was traced to lead to the presumption of direct infection.

I think it would help to make my meaning plain if you will imagine the town as in the form of a giant spider, placed in a shallow cup with its legs projecting up the sides; then the incidence of the fever would be upon the legs & mostly upon their raised ends; these well representing the position of the terminals of our drainage; the parts where the accumulation of sewer air would be greatest; its escape most easy & where from the foregoing details of this report, it will easily be seen the bulk of the fever cases, arose. Only one occurred on the body of our spider & this was the only case near to the river. In connection with my theory that the outbreak was due to insufficient natural flushing of drains leading to accumulation of sewer air it is interesting to observe that heavy rain began to fall on the 24th Sept^r & that from then the epidemic manifestly decreased. No doubt compulsory notification has done much to increase

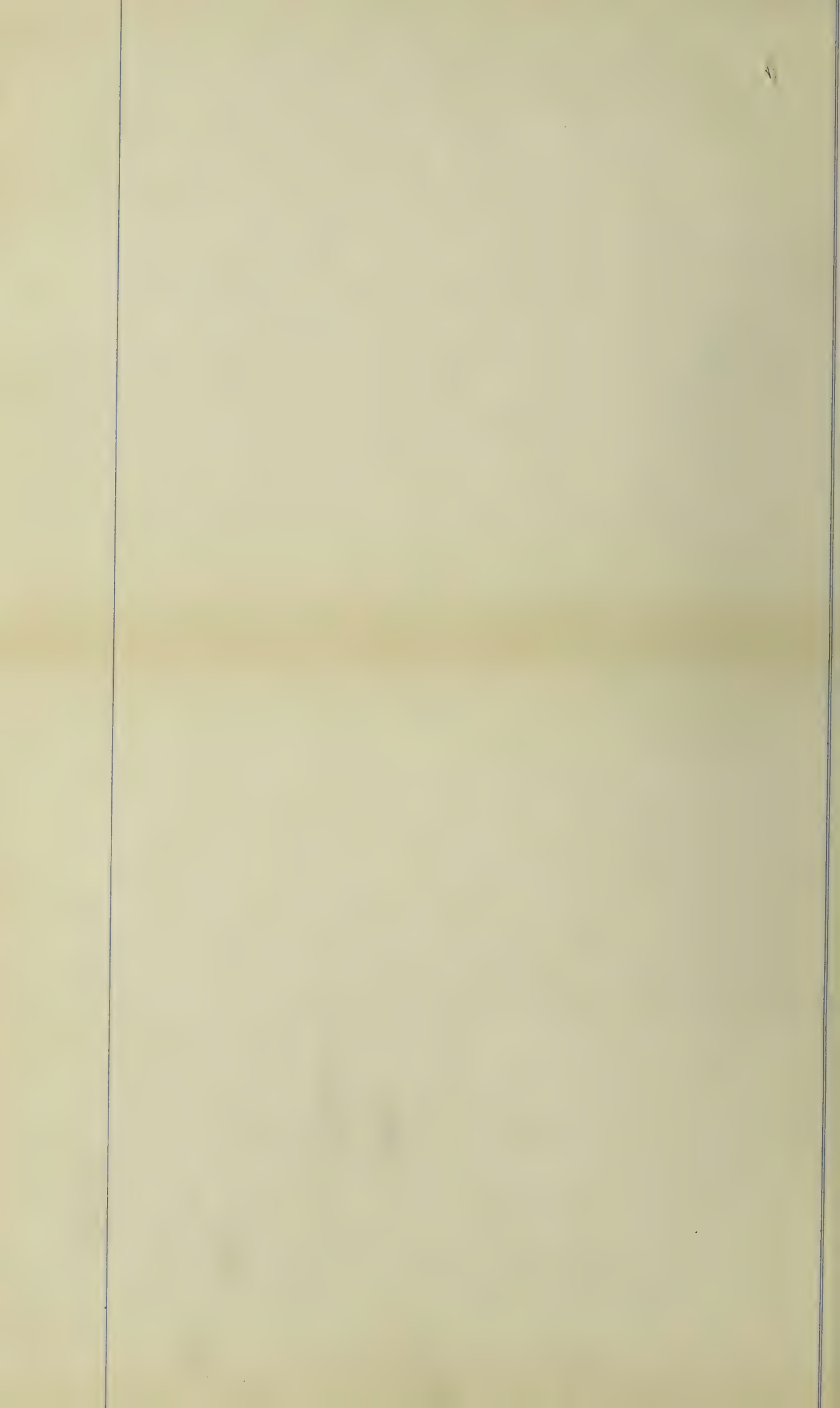
the apparent prevalence of fever; probably I was not aware of all such cases previously, as judging from the number of deaths in other years & taking into consideration the increase of population, viz. 743 in the decennium between 1881 & 1891. Also the extreme drought during the spring & summer, certainly greater than was experienced during the years to which I will immediately refer & approximated to only in 1887. Also the sanitary defects I have described, and the continued & increased need of a system of sewerage, I do not consider that the 5 deaths from enteric fever during the year shows a greater prevalence than has before occurred. I would here say that deaths certified as continued fever during the prevalence of typhoid may in all probability be attributed to the latter. Deaths in following years: -

1883 - 2 typhoid; 2 continued fever
 1884 - 4 "
 1885 - 0 but 5 cases of typhoid in Workhouse.
 1886 - 2 typhoid; 1 continued
 1887 - 6 " 1 " 1 case in Workhouse.
 1888 - 1 "
 1889 - 4 "
 1890 - 1 " 1 continued
 1891 - 0; & here I find in my report for that year the following sentence "I would notice the absence of enteric fever during the year, due I believe to the heavy rains of the autumn and winter thoroughly flushing the drains & culverts."
 1892 - 2 typhoid
 1893 - 5 " 1 death at Workhouse.

You will notice the 6 deaths from typhoid & 1 from continued fevers, 1887, the year that approximated most closely to this in the amount of drought. There were also during the quarter 8 cases of continued fever notified. They occurred much in the same localities as the enteric. Four cases of scarlet fever, 3 in one house, but no further spread of infection; & two cases of diphtheria in the same localities as the enteric; and subject to similar insanitary conditions.

I beg to remind you of the fact to which I have more than once drawn your attention, viz. the intimate connections that evidently exist between outbreaks of enteric fever & of cholera. It is a matter of no small interest as emphasising all that is known about the filthy relations of cholera, to find that in certain towns in which it has prevailed enteric fever has been continually present. The continued presence of enteric fever in towns is of bad augury for their future; & any town which by now does not know how to deal with its sewage with due regard to economy and efficiency has made only indifferent use of the years which have elapsed since the passing of the Rivers' Act.

At this point allow me to offer your Authority my congratulations on your being now, I hope within measurable distance of carrying out a satisfactory scheme of sewerage. Although this, I fear, will not tend altogether to diminish distinctly infectious disease until all house owners join in properly reconstructing.



private drains & taking due pains to remove all local sanitary defects. In this connection I must again urge upon you the necessity of erecting an Isolating Hospital & providing an Ambulance and Steam Disinfector. I must also advise you that more rigid disinfection of linen, clothing, beds & bed clothes is highly needful.

I am glad that you have adopted Part III of the Public Health Acts Amendment Act, the powers of which are important & necessary & materially concern the public health & safety. There was as I have said considerable decrease in the number of notified cases of fever during the last quarter, there being 7 cases of enteric fever notified as against 20 in the preceding quarter & 2 cases of continued fever as against 8. But 2 deaths from enteric fever took place. All these cases occurred in the localities previously affected & tend to show that the disinfection was by no means complete.

Several more local sanitary defects were brought to light & in some instances were remedied; in others notices were served. 28, 40, 41, 50, 51, Newcastle-hill: The closets were found to be foul & insufficiently flushed, the drains defective, & not ventilated. 45, 46, 48, 49, Newcastle-hill: foul primers, not ventilated. 6, 7, Cowbridge-road: defective water supply. Three other houses in the Cowbridge-road, the closets were choked from defective flushing and they were without a proper water supply.

In conclusion I wish to call attention to one other matter which appears to me

of some importance, although at first sight only a matter of detail. Dr Cameron, medical officer of Dublin, has demonstrated countless bacteria & bacilli in the river gravel & super-imposed soil upon which houses in the low lying parts of Dublin have been built, & attribute the prevalence of typhoid fever in those localities to the entrance of the fever poison from the ground through the floors of the houses & therefore strongly enforces the need of cementing the site to be built upon. If this is the case, & it appears highly probable, it cannot be a wise proceeding for the Authority to excavate the gravel beneath our polluted river & distribute about the footpaths in the outskirts of the town. It would seem lucky that some of your ratepayers have not had serious cause to regret your Board's parsimony in the mode of the formation of footpaths.

The births during the year have been 165; males 78; females 87; giving a birth rate of 32.0. The deaths through the same period were 68, excluding the Workhouse; giving a death rate of 13.2. Including the Workhouse, 84; a death rate of 16.3. The zymotic death rate is 1.5; and the death rate for children under one year per 1000 births is 139.3. This death rate is the lowest during the time I have been your medical officer; it is lower than the lowest of the death rates of the thirty-three largest provincial towns; and what makes me hope that the diminution is not illusive is the fact that it has decreased

every year since 1890. And the zymotic death rate is not appreciably higher than we have experienced before notwithstanding the outbreak of enteric & continued fevers in the summer and autumn. I think this is a matter for congratulation.

I beg to remain, Gentlemen,

Yours faithfully

M. C. H.

Bridgend 10th March 1894.



92